

AMENDMENTS TO THE CLAIMS:

32. (currently amended) An article of manufacture comprising:
a metallic substrate;
a thermal barrier coating disposed on the metallic substrate;
wherein the thermal barrier coating comprises a spinel material and an
oxide material admixed to the spinel material, the oxide material selected from
the group of MgO, ZrO_2 -HfO₂, NiO, CoO, Al₂O₃-and Cr₂O₃.

33. (currently amended) The article of manufacture of claim 32,
wherein the spinel material is selected from the group of CoMg₂O₄, CoFe₂O₄,
CoCr₂O₄, CoTi₂O₄, CoAl₂O₄, NiMg₂O₄, NiFe₂O₄-NiTi₂O₄, TiMg₂O₄, TiFe₂O₄,
TiCr₂O₄, TiTi₂O₄, and TiAl₂O₄.

34. (previously added) The article of manufacture of claim 32, wherein
a first portion of the thermal barrier coating comprises a normal spinel material
and a second portion of the thermal barrier coating comprises an inverse spinel
material.

35. (currently amended) An article of manufacture comprising:
a metallic substrater;
a thermal barrier coating disposed on the metallic substrate;
wherein the thermal barrier coating comprises a spinel material selected
from the group of CoMg₂O₄, CoFe₂O₄, CoCr₂O₄, CoTi₂O₄, CoAl₂O₄, NiMg₂O₄,
NiFe₂O₄-NiTi₂O₄, TiMg₂O₄, TiFe₂O₄, TiCr₂O₄, TiTi₂O₄, and TiAl₂O₄.

36. (currently amended) The article of manufacture of claim 35, further
comprising an oxide material admixed to the spinel material, the oxide material
selected from the group of MgO, ZrO_2 -HfO₂, NiO, CoO, Al₂O₃-and Cr₂O₃.

37. (previously added) An article of manufacture comprising:
a metallic substrate;
a thermal barrier coating disposed on the metallic substrate;
wherein a first portion of the thermal barrier coating comprises a normal spinel material and a second portion of the thermal barrier coating comprises an inverse spinel material.

38. (new) The article of manufacture of claim 32, wherein the spinel material is present as a mixture of the type AB_2X_4 -AX- B_2X_3 .

39. (new) The article of manufacture of claim 35, wherein the spinel material is present as a mixture of the type AB_2X_4 -AX- B_2X_3 .

40. (new) The article of manufacture of claim 37, wherein the thermal barrier coating comprises a spinel material present as a mixture of the type AB_2X_4 -AX- B_2X_3 .